

**DEPARTMENT of ENVIRONMENTAL SERVICES**  
**Water Supply & Pollution Control Division - Biology Bureau**

**LAKE TROPHIC DATA**

**MORPHOMETRIC:**

Lake: <b>SUNRISE LAKE</b>	Lake Area (ha):	103.96
Town: <b>MIDDLETON</b>	Maximum depth (m):	4.1
County: <b>Strafford</b>	Mean depth (m):	1.9
River Basin: <b>Coastal</b>	Volume (m <sup>3</sup> ):	1966000
Latitude: <b>43°27'15" N</b>	Relative depth:	0.4
Longitude: <b>71°04'30" W</b>	Shore configuration:	1.52
Elevation (ft): <b>666</b>	Areal water load (m/yr):	3.77
Shore length (m): <b>5500</b>	Flushing rate (yr <sup>-1</sup> ):	2.00
Watershed area (ha): <b>854.7</b>	P retention coeff.:	0.71
% watershed ponded: <b>0.0</b>	Lake type:	artificial

**BIOLOGICAL:**

**6 March 1991**

**19 July 1990**

DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 50%	CHRYOSOPHAERELLA 70%
	#2	DINOBRYON 50%	ASTERIONELLA 25%
	#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)			710.0
CHLOROPHYLL-A (µg/L)			6.13
DOM. ZOOPLANKTON (% TOTAL)	#1	POLYARTHRA 64%	COLLOTHECA 46%
	#2	KERATELLA 27%	KERATELLA 28%
	#3		
ROTIFERS/LITER		697	174
MICROCRUSTACEA/LITER		22	30
ZOOPLANKTON ABUNDANCE (#/L)		730	218
VASCULAR PLANT ABUNDANCE			Scattered
SECCHI DISK TRANSPARENCY (m)			2.7
BOTTOM DISSOLVED OXYGEN (mg/L)		10.6	8.0
BACTERIA (fecal col., #/100 ml) #1			< 10
	#2		30
	#3		

**SUMMER THERMAL STRATIFICATION:**

not stratified

Depth of thermocline (m): None  
Hypolimnion volume (m<sup>3</sup>): None  
Anoxic volume (m<sup>3</sup>): None

**CHEMICAL:**

Lake: SUNRISE LAKE

Town: MIDDLETON

	6 March 1991		19 July 1990		
DEPTH (m)	1.0	2.5	1.0		3.0
pH (units)	6.0	6.1	6.9		6.9
A.N.C. (Alkalinity)	2.6	3.7	3.8		3.8
NITRATE NITROGEN	0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.22	0.34	0.24		0.29
TOTAL PHOSPHORUS	0.010	0.009	0.010		0.011
CONDUCTIVITY ( $\mu$ mhos/cm)	27.0	33.8	33.2		33.4
APPARENT COLOR (cpu)	36	36	29		29
MAGNESIUM			0.45		
CALCIUM			2.5		
SODIUM			3.9		
POTASSIUM			0.40		
CHLORIDE	3	4	4		4
SULFATE	3	4	3		3
TN : TP	27	38	24		26
CALCITE SATURATION INDEX			3.4		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1990**

D.O. S.D. PLANT CHL TOTAL CLASS

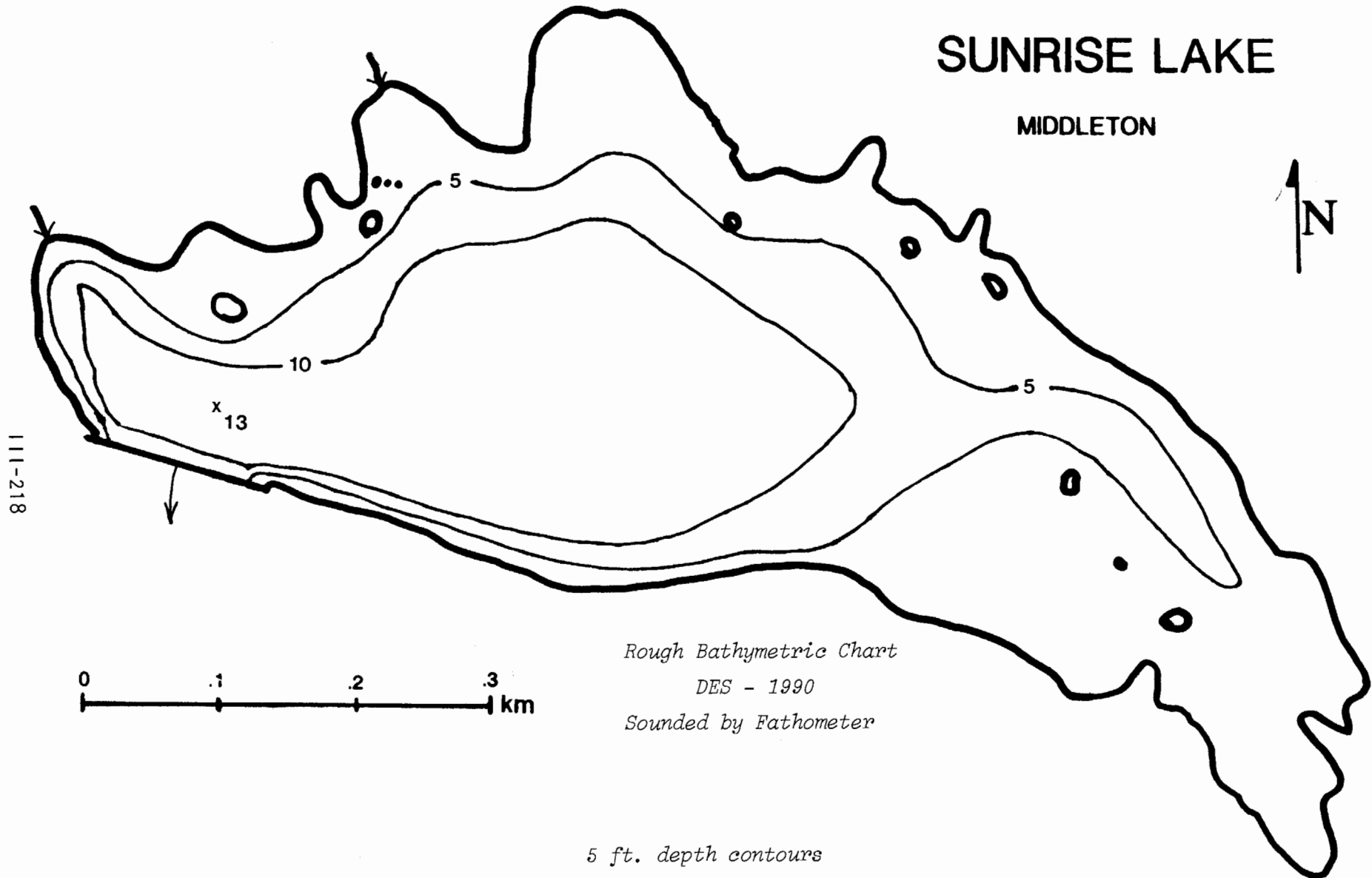
**	3	1	1	5	Meso.
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**COMMENTS:**

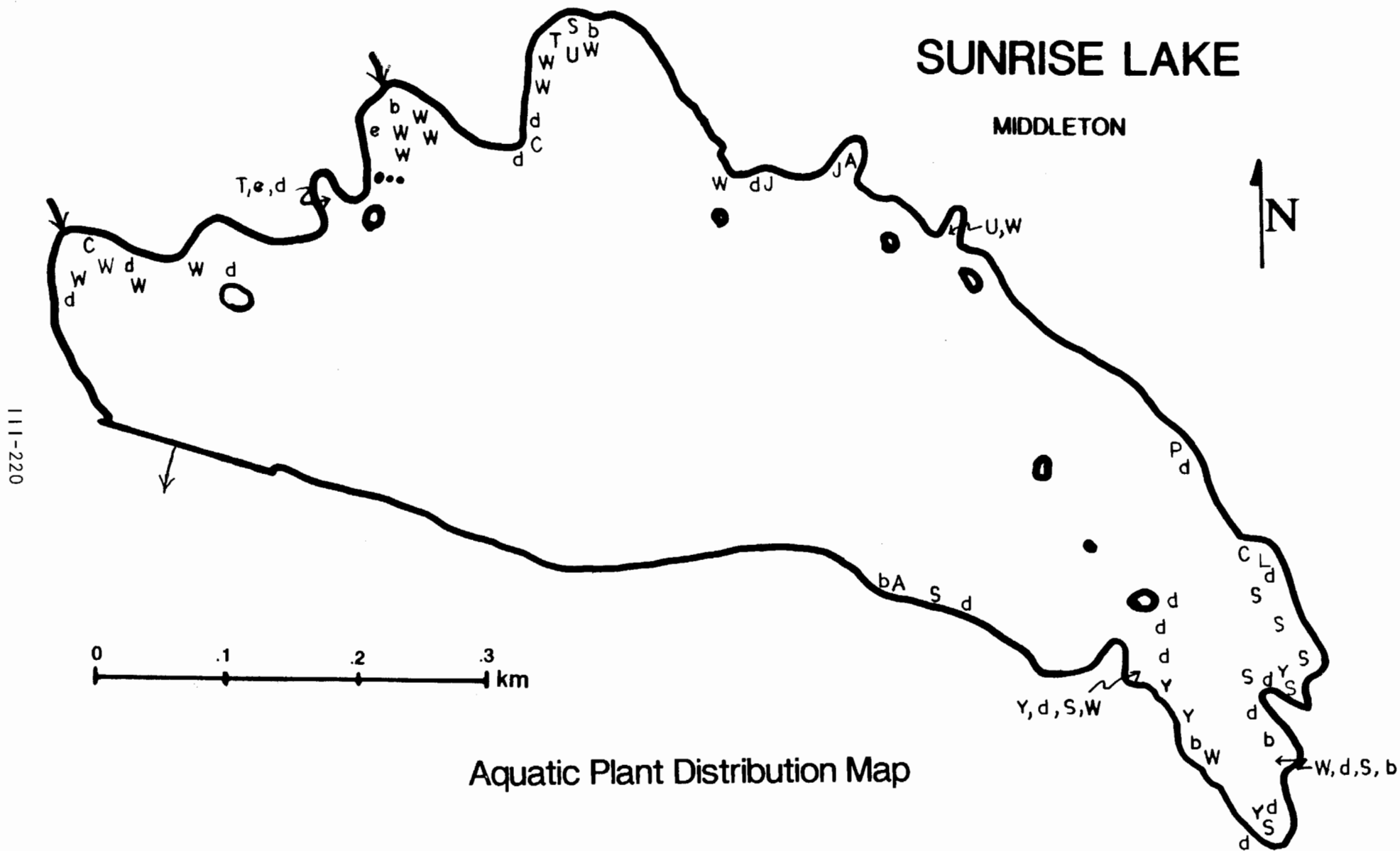
1. Previously known as The Dump Reservoir.
2. Public access was present -- a shallow, dirt launch site.
3. Four or five boats of greater than 50 horsepower were observed on this shallow pond.
4. There were many shoal areas scattered around the lake.
5. Rhizosolenia (20%) and Asterionella, Melosira, tiny green flagellates and Mallomonas (each 10%) were the dominant genera of wholewater phytoplankton.
6. Sunrise Lake was previously surveyed and classified in 1977. The lake went from oligotrophic to mesotrophic because of somewhat more rooted plants and algae, and slightly less water clarity.

# SUNRISE LAKE

MIDDLETON



[illegible]



[illegible]